Title (en)

X-ray tubes for CT scanners

Title (de)

Röntgenröhren für rechnergestützte Tomographie-Abtaster

Title (fr)

Tube à rayons X dans un appareil de balayage pour tomographie assistée par ordinateur

Publication

EP 0676911 B1 20000920 (EN)

Application

EP 95301500 A 19950308

Priority

US 22495894 A 19940408

Abstract (en)

[origin: EP0676911A1] A toroidal x-ray tube (I) is supported and selectively positioned by a CT gantry (II). The x-ray tube includes a toroidal housing (A) in which a rotor (30) is rotatably mounted. One or more cathodes (C) are mounted on the rotor for generating an electron beam which strikes an anode (B) to generate a beam of x-rays which passes through a window (20) and strikes an annular ring of detectors (160). A grid bias control circuit (100) selectively applies a continuously adjustable bias to a grid (32) for regulating the electron current, and hence the intensity of the x-ray beam. A scintillating optical fibre (110) extends around the exterior of the window. The scintillation optical fibre includes fluorescent dopant (116) which converts a very small fraction of the x-rays into light which is transmitted along the fibre to an optoelectric transducer (118). The opto-electric transducer is connected with the grid bias control circuit. The opto-electrical transducer (118) can also be connected with an intensity compensator (162) for adjusting the signals from the detector ring before they are reconstructed (164) into an image representation. <IMAGE>

IPC 1-7

H05G 1/04; H05G 1/26; H05G 1/36; H05G 1/44; H01J 35/24; A61B 6/03

IPC 8 full level

A61B 6/00 (2006.01); **H01J 35/24** (2006.01); **H05G 1/02** (2006.01); **H05G 1/04** (2006.01); **H05G 1/26** (2006.01); **H05G 1/32** (2006.01); **H05G 1/64** (2006.01)

CPC (source: EP US)

A61B 6/4028 (2013.01 - EP US); **A61B 6/4488** (2013.01 - EP US); **A61B 6/56** (2013.01 - EP US); **H01J 35/24** (2013.01 - EP US); **H05G 1/04** (2013.01 - EP US); **H05G 1/26** (2013.01 - EP US); **H05G 1/32** (2013.01 - EP US); **H05G 1/64** (2013.01 - EP US)

Cited by

CN109901213A; CN102843970A; US9949703B2; US9154014B2; US11309160B2; WO2014058775A1; WO2011128180A1; WO2011128187A1; US9717467B2; US9907516B2; US10034641B2; US10405812B2; US11523793B2; US9277899B2; US9597044B2; US9770214B2; US10010295B2; US10307115B2; EP0701391A1

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